federal register

Wednesday
May 20, 1992

## Part VII

# Department of the Interior

**Fish and Wildlife Service**

**50 CFR Part 17**

**Endangered and Threatened Wildlife and Plants; Determination of Endangered Status; Rules**

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**RIN 1018-AB66**

## Endangered and Threatened Wildlife and Plants; Endangered Status Determined for the Plan Clematis morefieldii (Morefield's Leather Flower)

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The Service determines a plant, *Clematis morefieldii* (Morefield's leather flower), to be an endangered species under the authority contained in the Endangered Species Act (Act) of 1973, as amended. *Clematis morefieldii* is currently believed extant at only five sites in Madison County, Alabama. Three historical populations have been destroyed and two of the remaining sites are imminently threatened by residential development. The continued existence of this species is also jeopardized due to its limited range, small populations, and reduced vigor at sites which are excessively shaded. This action will extend the Act's protection to *Clematis morefieldii.*

**EFFECTIVE DATE:** June 19, 1992.

**ADDRESSES:** The complete file for this rule is available for public inspection, by appointment, during normal business hours at the Jackson, Mississippi, Field Office, U.S. Fish and Wildlife Service, 6578 Dogwood View Parkway, suite A, Jackson, Mississippi 39213.

**FOR FURTHER INFORMATION CONTACT:** Cary Norquist at the above address or telephone (601/965-4900 or FTS 490-4900).

**SUPPLEMENTARY INFORMATION:**

### Background

*Clematis morefieldii* is a perennial vine in the buttercup family (Ranunculaceae) and is a north Alabama endemic. It was first collected by Morefield in the early 1980's from Round Top Mountain in Madison County, Alabama, and later described by Kral (1987). This species is a member of the *Viornae* subsection of *Clematis,* which is noted for its narrow endemics (Kral 1987). *Clematis* in this subsection are distinguished by urn-shaped flowers which occur singly, or in few-flowered groups, in leaf axils. Their primary flower stalks (peduncles) are subtended by leafy bracts. *Clematis morefieldii* is closely related to *C. viorna,* a more variable species, but *C. morefieldii* has dense white hairs on the shoot, velvety lower leaf surfaces, and stouter, usually shorter (15-25 millimeters (mm) or 0.6 to 1.0 inch long) peduncles with sessile to nearly sessile bracts at the base (Kral 1987). *Clematis morefieldii* attains heights up to 5 meters (16 feet) and its compound leaves may attain lengths of 2 decimeters (8 inches). Leaves have 9 to 11 leaflets and the terminal 1 to 3 leaflets form tendrils. The flowers are pinkish and 20 to 25 mm (0.8 to 1.0 inch) long. Fruits are clusters of achenes. *Clematis morefieldii* flowers from late May to early July.

Extensive surveys have been conducted for *C. morefieldii.* Currently, it is known from only five locations in Madison County, Alabama. The vines are rooted in basic clay-loam soils in rocky limestone woods on the south and southwest facing slopes of mountains. Plants often sprawl over shrubs and boulders or climb understory shrubs. (Kral 1987). *Clematis morefieldii* occurs locally near seeps within a juniper-hardwoods community with *Cotinus obovatus* (smoketree) as the principal indicator species. Other associate hardwoods include *Carya ovata,* oaks (*Quercus shumardii, Q. muhlenbergia, Q. alba, Q. stellata*), *Ulmus,* and *Fraxinus americana.*

Four of the five populations are within 0.3 to 1.7 kilometers (km) (0.2 to 1.1 miles) of one another on the Huntsville—Monte Sano Mountain complex. A single vine is one site, two sites have approximately 20 plants, and the fourth site has several hundred vines. The fifth site (on Keel Mountain) is disjunct, approximately 8 km (6 miles) from the other sites, and has an estimated 300 vines. On all sites, the plants are clustered within a small area (0.1 hectare (0.25 acre) or less) (Weber 1991). Two populations are located on public land currently owned by the City of Hunstville. The other sites are on private property.

Of the total eight reported populations (including historic and extant sites), three populations are believed to have been destroyed, and two of the remaining five extant sites are imminently threatened by residential development. The continued existence of this species is also jeopardized due to its limited range, small populations, and reduced vigor at sites that are heavily shaded. Management may be necessary to maintain appropriate habitat.

Federal actions involving *Clematis morefieldii* began with field surveys in 1989, after the Service had been alerted to a newly described species of *Clematis* which appeared to be rare and facing imminent threats. In the February 21, 1990, publication of a notice of review for native plants in the **Federal Register** (50 FR 6184), *Clematis morefieldii* was included as a category 2 species (the specific name was misspelled in the notice). Category 2 species are those for which listing as endangered or threatended species may be warranted but for which substantial data on biological vulnerability and threats are not currently known or on file to support a proposed rule. The Service contracted for additional surveys in 1990 to further assess this species' rarity and threats to its existence. The contractor submitted a final report on this species' status in 1991. This report (Weber 1991) and other information supported the proposed listing. The data demonstrated a limited distribution and continuing threats to the species. On October 21, 1991, the Service published a proposal (56 FR 52503) to list *Clematis morefieldii* as an endangered species.

### Summary of Comments and Recommendations

In the October 21, 1991, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate Federal and State agencies, county governments, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice, inviting public comment, was published in the *Huntsville News,* Huntsville, Alabama, on November 9, 1991.

Four written responses to the proposed rule were received, including two from private individuals, one from a private conservation organization (Center for Plant Conservation), and one from a Federal agency (Tennessee Valley Authority). The Federal agency requested site specific information, without expressing an opinion on the proposed rule. The individuals and the Center for Plant Conservation (CPC) supported the proposal. The CPC additionally expressed their interest in assisting in recovery activities for this species. One of the individuals stated that further destruction had occurred at several of the sites.

### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Clematis morefieldii* should be classified as an endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C.

1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Clematis morefieldii* Kral (Morefield's leather flower) are as follows:

*A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range*

This species' range is currently recognized as limited to five sites in northern Alabama, all in Madison County. While surveying potential habitat for additional populations, it was noted that residential development had destroyed or adversely modified similar habitats. Residential development on mountains in the Huntsville area is increasing. Two of the existing populations are imminently threatened due to their precarious location on lots in a residential area. Clearing has already impacted habitat and individuals on these sites. Destruction of these two sites would result in approximately a 55 percent loss of total known individuals. At this time, only two of the five sites (22 and 300 plants, respectively) appear to be secure. Within the last few years, three populations have been destroyed by road building, clearing, and herbicide use associated with residential development (Weber 1991).

*B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

This recently discovered species is currently not known to be a significant component of the commercial wildflower trade; however, it is attractive and has horticultural potential. Publicity from its listing could generate an increased demand. Taking and vandalism pose threats because of its visibility when flowering and the accessibility of many of the sites. Over-collecting for any purposes could extirpate populations, especially at sites with only a few plants.

*C. Disease or Predation*

Seed predation by insects was noted in several populations (Weber 1991) and requires further investigation.

*D. The Inadequacy of Existing Regulatory Mechanisms*

Although it is considered endangered in Alabama (Gunn, Alabama Heritage Program, pers. comm., 1991), there are no State or Federal laws protecting *Clematis morefieldii* or its habitat. Two populations (totalling less than 25 plants) occur on public land (City of Huntsville) and are currently protected. However, ownership, thus protection, for one of these sites is tenuous. There is a possibility that public ownership will revert to private landowners if sufficient funds are not available to complete payment (Weber 1991). The Act will strengthen existing protection, provide additional protection and encourage active management for *Clematis morefieldii* when it is added to the Federal list of endangered and threatened species (see "Available Conservation Measures").

*E. Other Natural or Manmade Factors Affecting its Continued Existence*

This species is extremely vulnerable because it has a limited range and low numbers of plants at many of the sites. One population has one plant, two have approximately 20 plants, and all sites occupy less than an acre in area. A single unnatural or natural disturbance could destroy a significant percentage of the known populations. In addition, the small number of individuals at three sites may indicate a limited gene pool and, without infusion of gene flow, it is questionable if these smaller populations can survive.

*Clematis morefieldii* appears to have restricted ecological requirements. Plants are locally distributed and seem to require areas where shale seeps are moist for a good part of the year (Weber 1991). One population, located under a closed canopy, appeared to be stressed. Individuals were smaller and fewer flowers were observed, when compared to populations where the canopy was somewhat "open". This species may require habitat management to curtail succession.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Clematis morefieldii* as endangered. Endangered status is appropriate due to the species' restricted range and imminent threats facing several populations. An endangered species, as defined by the Act, is threatened with extinction throughout all or a significant portion of its range. Critical habitat is not being designated for reasons discussed in the following section.

**Critical Habitat**

Section 4(a)(3) of the Act, as amended, requires, to the maximum extent prudent and determinable, that the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is presently not prudent for this species. This recently discovered *Clematis* occurs in limited numbers at only five locations; three of which are easily accessible. Publication of critical habitat maps in the Federal Register and local newspapers would increase public interest and possibly lead to additional threats for this attractive species.

Take is regulated by the Act with respect to endangered plants only in cases of (1) removal and reduction to possession of listed plants from lands under Federal jurisdiction, or their malicious damage or destruction on such lands; and (2) removal, cutting, digging up, or damaging or destroying in knowing violation of any State law or regulation, including State criminal trespass law. However, the known populations of *Clematis morefieldii* are located only on private and city land. Although the species is considered to be endangered in the State, there are no State laws which provide protection from collecting or vandalism. While listing under the Act increases the public's awareness of the species' plight, it can also increase the desirability of a species to collectors. As stated previously, this *Clematis* is an attractive vine which may be desirable to the wildflower trade or novelty collectors. Discovery and elimination of even one population would compromise the survival of the species. It also could be adversely affected by increased visits to, and associated trampling of, occupied sites as a result of critical habitat designation.

As discussed above, it is not now prudent to determine critical habitat for *Clematis morefieldii*. All involved parties, including appropriate City and State agencies, and key private landowners, have been notified of the location and importance of protecting this species' habitat. Protection of this species' habitat will be addressed through the recovery process and through the Section 7 consultation process.

**Available Conservation Measures**

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species

Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

All presently known populations are on private or city-owned land. The only currently known activity to be authorized, funded, or carried out by a Federal agency that would affect *Clematis morefieldii* is consideration of this species by the Environmental Protection Agency relative to pesticide (herbicide) registration.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. In addition, for endangered plants, the 1988 amendments (Pub. L. 100–478) to the Act prohibit the malicious damage or destruction on Federal lands and the removal, cutting, digging up, or damaging or destroying of endangered plants in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances.

It is anticipated that few trade permits would ever be sought or issued because the species is not common in cultivation or in the wild. Requests for copies of the regulations on listed plants and inquiries regarding prohibitions and permits may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, room 432, Arlington, VA 22203 (703/358–2104).

### National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

### References Cited

Kral, R. 1987. A new "Viorna" *Clematis* from northern Alabama. Ann. Missouri Bot. Gard. 74:665–669.

Weber, S.F. 1991. Status report on *Clematis morefieldii*. Unpublished report to U.S. Fish and Wildlife Service, Southeast Region, Jackson, Mississippi. 10 pp. + appendix.

### Author

The primary author of this rule is Cary Norquist (see **ADDRESSES** section), 601/965–4900 or FTS 490–4900.

### List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

### Regulation Promulgation

## PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under Ranunculaceae, to the List of Endangered and Threatened Plants:

**§ 17.12 Endangered and threatened plants.**

* * * * *

(h) * * *

| Species | | Historic range | Status | When listed | Critical habitat | Special rules |
|---|---|---|---|---|---|---|
| Scientific name | Common name | | | | | |
| Ranunculaceae—Buttercup family: | | | | | | |
| * | * | * | * | * | * | |
| *Clematis morefieldii* | Morefield's leather flower | U.S.A. (AL) | E | 468 | NA | NA |
| * | * | * | * | * | * | |

Dated: May 4, 1992.

**Bruce Blanchard,**

*Acting Director, Fish and Wildlife Service.*

[FR Doc. 92–11826 Filed 5–19–92; 8:45 am]

BILLING CODE 4310–55–M

## DEPARTMENT OF THE INTERIOR

## 50 CFR Part 17

**RIN 1018–AB66**

## Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Mitchell's Satyr Butterfly

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Fish and Wildlife Service (Service) determines the Mitchell's satyre butterfly (*Neonympha mitchellii mitchellii*) to be an endangered species pursuant to the Endangered Species Act (Act) of 1973,

as amended (16 U.S.C. 1531 *et seq*). Collecting pressure on this butterfly has resulted in the loss of several populations and is believed to immediately threaten the survival of several more populations. Human-caused degradation and destruction of the species' habitat has also substantialy reduced the number of sites occupied by this butterfly. Due to the need to immediately decrease collection of the species by protecting it under the Act, the Service exercised its emergency listing authority on June 25, 1991, by publishing an emergency rule which gave this species immediate and temporary endangered status and the resulting protection under the Act. The emergency rule provided Federal Protection for 240 days during which the Service initiated the normal listing procees to ensure long-term protection for the species. This rule provides the long-term protection that the Service believes is necessary to ensure the continued existence of the butterfly. This rule does not include the North Carolina subspecies, *N. m. francisci*, which may be extinct.

**EFFECTIVE DATE:** May 20, 1992.

**ADDRESSES:** The complete file for this rule is available for inspection, by appointment, during normal business hours, at the Twin Cities Regional Office, U.S. Fish and Wildlife Service, Division of Endangered Species, Bishop Henry Whipple Federal Building, One Federal Drive, Fort Snelling, Minnesota 55111–4056.

**FOR FURTHER INFORMATION CONTACT:** Craig Johnson, Chief, Division of Endangered Species, at the above address (telephone 612/725–3276 or FTS 725–3276).

**SUPPLEMENTARY INFORMATION**

## Background

*N. m. mitchellii* is the nominate subspecies of one of two North American species of *Neonympha*. It was described by French in 1889 from a series of ten specimens collected by J. N. Mitchell in Cass County, Michigan (French 1889). It is a member of the family Nymphalidae (over 6,400 species worldwide), subfamily Satyrinae (estimated 2,400 species).

(The Act defines "species" to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife * * *" (section 4(15)). Therefore, although taxonomically recognized as a subspecies, *N. m. mitchellii* will be referred to as a "species" throughout the remainder of this rule. This legal, as opposed to biological, use of the term "species" should not be understood to mean that this rule covers the entire species *Neonympha mitchellii*. This rule covers only the northern subspecies *N. m. mitchellii*, and does not include the North Carolina subspecies *N. m. francisci*.

Mitchell's satyr is a medium sized (38–44 millimeter wingspan) butterfly with an overall rich brown coloration. A distinctive series of submarginal yellow-ringed black circular eyespots (ocelli) with silvery centers are found on the lower surfaces of both pairs of wings. The number of ocelli on the forewing varies between the sexes, with males generally having 4 (range 2–4) and females having 6 (range 5–6). The eyespots are accented by two orange bands along the posterior wing edges, as well as two fainter orange bands across the central portion of each wing. It is distinguishable from its North American congener *N. areolata* by the latter's well-marked ocelli on the upper wing surfaces, as well as the lighter coloration and stronger flight of *N. areolata* (French 1889; McAlpine et al 1960; Wilsmann and Schweitzer 1991).

*N. m. mitchellii* is one of the most geographically restricted butterflies in North America. Historical records exist for approximately 30 locations in four States, ranging from southern Michigan, adjacent counties of northern Indiana, and a single Ohio county, with several disjunct populations in New Jersey. The species has been documented from a total of 18 counties (Badger 1958; Martin 1987; Pallister 1927; Rutkowski 1988; Shuey et al 1987b; Wilsmann and Schweitzer 1991).

A second *Neonympha mitchellii* subspecies was discovered at Ft. Bragg, North Carolina in 1983 (Parshall and Kral 1989). This subspecies, *N. m. francisci*, is only known from that single site, and may have been collected to extinction since its discovery. Although additional suitable habitat probably exists on, and adjacent to, Ft. Bragg, no additional populations have been discovered (Schweitzer 1989). This rule does not include *N. m. francisci*.

Although *N. m. mitchellii* has been reported from Maryland, the lack of suitable habitat makes it more likely that those 1940's specimens were misidentified members of a *Neonympha areolatus* subspecies. Suitable habitat may exist in New York, Connecticut, Massachusetts, and Pennsylvania. However, searches in these States have failed to locate any *N. m. mitchellii* populations (Schweitzer 1989; Wilsmann and Schweitzer 1991).

The habitat occupied by *N. m. mitchellii* consists solely of wetlands known as fens. This is an uncommon wetland habitat type characterized by calcareous soils and fed by carbonate-rich water from seeps and springs. Fens are most frequently components of larger wetland complexes. Due to the superficial resemblance of fens to bogs, the habitat of Mitchell's satyr has sometimes been erroneously described in earlier literature as acid bogs (McAlpine et al 1960; Shuey 1985; Shuey et al 1987a; Wilsmann and Schweitzer 1991).

From 1985 through 1990 the Service sponsored intensive searches of over 100 sites that had suitable habitat for the species throughout its known range. The sites visited were either known historical locations for the species, or were chosen because of the presence of a fen. All historical locations were checked if they could be relocated and if the fen habitat still existed. Survey results indicated the species occurred at only 18 sites, of which two were not historically known, and one was subsequently destroyed by over-collection. Therefore, the species has disappeared from approximately one-half of its historical locations. No extant populations have been found in Ohio, and the only New Jersey population that remained in 1985 is believed to have been extirpated by collectors subsequent to the survey. In 1991, searches in New Jersey failed to locate any additional populations (Breden, New Jersey Natural Heritage Program, 1991, pers. comm.). Thus, the species is currently believed to exist in nine counties in Indiana and Michigan. Due to the extent of these and other recent surveys, finding additional sites is unlikely, although survey efforts will be continued.

A letter from Charles L. Remington, dated November 19, 1974, asked the Service to protect *N. m. mitchellii* (letter from Charles L. Remington to Dr. Paul A. Opler, U.S. Fish and Wildlife Service, dated November 19, 1974). That letter was treated as a petition to list the species as threatened or endangered. The Service subsequently found (49 FR 2485, January 20, 1984) that insufficient data was available to support listing at that time. The Service's May 1984, Animal Notice of Review (49 FR 21664–21675) listed *Neonympha mitchellii* as a category 3C species, indicating that at that time the species was believed to be

too abundant for consideration for addition to the endangered and threatened species lists. In a subsequent January 6, 1989, Animal Notice of Review (54 FR 554–579) the species was upgraded to a category 2 candidate for listing, indicating renewed concern for the species' welfare and encouraging further studies into the status of the species. The most recent status survey indicates that the species has experienced significant range reduction and should receive the protection of the Act (Wilsmann and Schweitzer 1991). The Service analyzed the status survey and determined that the species should be protected from over-collection by an emergency listing as an endangered species. The emergency listing was published, and became effective, on June 25, 1991 (56 FR 28825–828), and provided protection under the Act until February 20, 1992.

**Summary of Comments and Recommendations**

In the September 11, 1991, proposed rule, as well as in the December 3, 1991, notice reopening the comment period, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, landowners, and other interested parties were contacted and requested to comment. Newspaper notices were published in 18 papers across the four-state historical range of the species during the period October 11 through October 23, 1991, inviting public comment. Forty-two comments were received and are discussed below. These comments came from the state conservation agencies of the four states with historical sites for the species, one Michigan county commission, a Michigan wetland preservation organization, three professional and amateur lepidopterists, and 32 private citizens. The private citizen letters included 2 from the owners of two Michigan sites currently occupied by the species, and 25 letters from elementary students who live in the vicinity of one of the extant Indiana sites. One commenter opposed the listing; all other commenters supported the listing.

Letters supporting the Federal listing of the species were received from the four state conservation agencies within its historic range. A letter from an amateur entomologist responding for the Barry County Board of Commissioners supported the listing and offered assistance in conservation measures. A letter with 12 signatures from the Wetland Conservation Association, located in Berrien County, Michigan, urged the Service to list the species and expressed concern over potential adverse impacts to the species from a proposal to realign U.S. Highway 31. All 32 letters from private citizens supported the listing.

Professional and amateur lepidopterists sent three letters containing additional data and scientific comments. Two of these letters expressed strong support for Federal protection for the species, while the third letter strongly opposed Federal listing as endangered. Both supporting letters (from Dr. Dale Schweitzer, The Nature Conservancy, and John C. Calhoun, Southern Leipidopterists' Society) stressed the need for additional surveys for *N. m. francisci* before the Service assumes it to be extinct. Accordingly, the wording of this final rule has been adjusted to recognize that *N. m. francisci* might be extinct, but that additional surveys are waranted before that conclusion is final. The service is funding additional surveys in North Carolina for *M. m. francisci* in the hope that extant populations can be located.

Mr. Calhoun stated the likelihood of a second historical population in Ohio at a site that has experienced habitat destruction. He also pointed out severe adverse impacts from intensive collecting at one Michigan site that previously had a "very strong" Mitchell's satyr population.

The sole letter opposing the Federal listing of *N. m. mitchellii* as an endangered species was submitted by Mr. Mogens Nielsen. Mr. Nielsen's letter contained a number of assertions that fall into four categories; the species is not declining, collection is not a threat, the 1985–90 searches were inadequate, and Federal listings as endangered will curtail further surveys and research on the species. These points are discussed individually below.

Mr. Nielsen describes personal observations made at the type locality for the species over a 34-year period. He states that he never detected any significant population change at that site. He did not describe his observation methods, nor submit any data supporting his assertion. Thus, the Service is unable to evaluate this comment regarding population trends for one of the extant populations. However, the service believes that the documented loss of one-half of the known historical populations is sufficient reason for listing the species even if the population is stable at one or more of the individual sites.

The Service has received numerous accounts, including a 1991 report from Service law enforcement personnel, describing evidence of probable collection activity at *N. m. mitchellii* sites. The Service also has reports of incidents of earlier collections that many knowledgeable lepidopterists accept as factual. The Service remains confident that *N. m. mitchellii* is threatened by collection pressure despite the absence of successful court prosecutions of collectors.

The Service disagrees with Mr. Nielsen's characterization of the recent rangewide surveys, and believes the 1985–1990 searches for *N. m. mitchellii* provided an accurate index of the status of the species. Although not all fens were checked, those fens judged to be of moderate to high habitat quality were checked, and all existing and locatable fens with historical occurrences of the species were checked. The surveys focussed on the most likely sites for the species, yet *N. m. mitchellii* was found at only 16 of the 103 sites surveyed, with one of those subsequently being eliminated by over-collection. While the Service recognizes that additional populations might be found, these are likely to be at sites with lower quality habitat and low population levels. The findings of a few such sites will do little to alter the probability of extinction for *N. m. mitchellii*.

The Service recognizes and appreciates the contributions made by lepidopterists in obtaining data on rare species occurrences and population trends. Subsequent to this listing the Service intends to allow research and survey activities on *N. m. mitchellii* to continue if they will promote the conservation of the species. Permits for such activities will be available from the Service. Federal listing as endangered will curtail only detrimental research and other activities.

In addition to these comments, a January 6, 1992, phone inquiry was received from the office of Congressman Gallo (NJ), asking if the Service has any firm plans for site preservation in New Jersey. Site preservation activities, as well as other recovery actions, will be recommended by a recovery plan to be developed by experts on the species. There currently are no site-specific preservation plans.

**Summary of Factors Affecting the Species**

After a thorough review and consideration of all information available, the Service has determined that *N. m. mitchellii* should be classified as an endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531

*et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *N. m. mitchellii* are as follows:

*A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range*

Fen habitat is being destroyed and degraded by human activities and by natural succession. Human-induced destruction of historical sites has been documented in at least three cases. One Michigan site has been destroyed by urban development. Sites in Michigan and Ohio have been lost by conversion to agriculture. Another extant population in Michigan has had a portion of its habitat destroyed by hog farming activities and all terrain vehicle use. These activities constitute ongoing threats to other sites with extant populations of *N. m. mitchellii* (Shuey et al 1987a; Schweitzer 1989; Martin 1987; Wilsmann and Schweitzer 1991).

One Michigan site is bisected by a highway which is scheduled for realignment. Mitchell's satyr habitat will be destroyed or degraded by the project as originally designed. Consultation under section 7 of the Act is underway among Service, Michigan Department of Transportation, and Federal Highway Administration officials to have the plans modified to diminish or eliminate adverse effects on the species.

Although natural succession in fens is not completely understood, it appears that human activities adjacent to a fen can speed succession and subsequent loss of Mitchell's satyr habitat. For example, nearby drainage ditches may alter the hydrologic regime of a fen, resulting in lowered water levels, more xeric soil conditions, and increased invasion of brush and trees into the fen. There is evidence that this is occurring at one Michigan site (Wilsmann, Michigan Natural Features Inventory, 1991, pers. comm.).

*B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

Mitchell's satyr has long been sought by butterfly collectors and there is evidence that collection of the species has continued despite its endangered or threatened classifications under Michigan, Indiana, and New Jersey rare species laws. Subsequent to the 1985 survey of New Jersey fens, it is believed that the State's last remaining *N. m. mitchellii* population was eliminated by collectors. A collector's glassine envelope was found at the site during one survey. Another New Jersey *N. m. mitchellii* site, which was well known to butterfly collectors, was extirpated in the 1970's by over-collection. The other subspecies of *Neonympha mitchellii, N. m. francisci,* is believed to have been collected to extinction at its only known location (Wilsmann and Schweitzer 1991; Breden 1991, pers. comm.; Schweitzer, The Nature Conservancy, 1991, pers. comm.).

Well-worn human paths have been seen at the sites of several extant populations in Michigan during status surveys and law enforcement activities over the last few years. These paths wind through *N. m. mitchellii* habitat in the manner that would be expected of knowledgeable collectors and are viewed as evidence that collecting is continuing, despite the species being listed and protected by State statute. Subsequent to the June 25, 1991, emergency listing, several butterfly collectors were encountered by Service Law Enforcement personnel at one well known Michigan site—fresh trails through prime Mitchell's satyr habitat were seen at nearly every other site being patrolled. At least five Michigan sites are sufficiently well known to collectors and/or have sufficiently small Mitchell's satyr populations to be extremely vulnerable to local extinction from overcollection (Wilsmann 1991, pers. comm.). All known *N. m. mitchellii* sites are believed vulnerable to local extinction by overcollection (Schweitzer 1991, pers. comm.).

*C. Disease or Predation*

Little is known about these factors, but there are no indications at this time that they might be contributing to the decline of *N. m. mitchellii.*

*D. The Inadequacy of Existing Regulatory Mechanisms*

*N. m. mitchellii* is currently listed under State statutes as endangered in Indiana, Michigan, and New Jersey, and extirpated in Ohio.

Endangered status in Michigan prohibits the collection of the species without a Michigan scientific collection permit. However, the threat of State prosecution apparently has not ended collectors' illegal activities. Michigan Department of Natural Resources officials believe the threat of Federal prosecution will be a more effective deterrent (Weise, Michigan Department of Natural Resources, Endangered Species Program, 1991, pers. comm.; Wilsmann 1991, pers. comm.).

Endangered status in Indiana provides official recognition of species' rarity, but the State's endangered species regulations do not prohibit taking listed insects unless they are also on the Federal endangered and threatened species list. Thus, the State classification provides no effective legal deterrent to continued collection. The ability to legally collect the species under Indiana statutes makes the species a target for heavy collecting pressure and possible extirpation in that State (Bacone, Indiana Natural Features Inventory, 1991, pers. comm.).

New Jersey regulations provide total protection for any *N. m. mitchellii* that may be rediscovered within the State (Frier-Murza, New Jersey Endangered Species Program, 1991, pers. comm.). The Ohio classification of extirpated provides no legal protection. However, if the species is rediscovered in the State, an emergency order can be invoked to list it as endangered and grant it full protection under State statutes (Case, Ohio Department of Natural Resources, Division of Wildlife, 1991, pers. comm.).

*E. Other Natural or Manmade Factors Affecting its Continued Existence*

*N. m. mitchellii* has only a single flight period annually, which lasts approximately two weeks for an individual, and for about three weeks for a population as a whole. It exhibits relatively sedentary behavior and slow, very low level flights. Due to these characteristics the species seems to have a limited ability to colonize new habitat patches, to recolonize historical sites, or to provide significant gene flow among extant populations. Therefore, the isolation of small populations makes them susceptible to local extinction if habitat degradation and/or collection pressure are also occurring (Wilsmann and Schweitzer 1991).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this final rule. Based on this evaluation, the preferred action is to list *N. m. mitchellii* as endangered. The species has experienced a severe decrease in the number of extant populations over its historical range, as well as probable extirpation from two of the four States with historical populations. Due to its continuing appeal to a segment of butterfly collectors, as well as its narrow and well known habitat requirements, approximately one-third of the remaining populations are extremely vulnerable to overcollection and local extinction, and all populations are believed susceptible to collection-induced extirpation.

The Service concluded that conducting the normal listing process would not have protected the species until after the 1991 Mitchell's satyr flight period, thus subjecting the species to an additional year of excessive collecting pressure. Overcollection of one or more populations during the 1991 flight period might have severely reduced the likelihood of species survival. Therefore, the Service listed the species as endangered on an emergency basis to provide maximum protection to all known populations during the 1991 flight period. At this time the Service is concluding the normal listing process by determining the species to be endangered.

### Critical Habitat

Section 4(a)(3) of the Act requires, to the maximum extent prudent and determinable, that the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for this species. As discussed under Factor B in the Summary of Factors Affecting the Species, *N. m. mitchellii* is threatened by illegal collecting. Publication of critical habitat descriptions and maps would make this species more vulnerable to collection, would increase the difficulty of protecting the species from illegal take, and significantly increase the likelihood of extinction. All involved parties and most landowners already have been notified of species locations and the importance of protecting this species' habitat. Habitat protection will be addressed through the recovery process, including individual landowner contacts, through the section 7 jeopardy standard, and section 9 prohibitions.

### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt any of these), import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities.

### National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

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### Author

The primary author for this proposed rule is Ronald L. Refsnider, U.S. Fish and Wildlife Service, Division of Endangered Species, Bishop Henry Whipple Federal Building, One Federal Drive, Fort Snelling, Minnesota 55111–4056.

### List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

### Regulation Promulgation

## PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.11(h) by adding the following, in alphabetical order under "Insects" to the List of Endangered and Threatened Wildlife:

**§ 17.11 Endangered and threatened wildlife.**

* * * * *

(h) * * *

| Species | | | Historic range | Vertebrate population where endangered or threatened | Status | When listed | Critical habitat | Special rules |
|---|---|---|---|---|---|---|---|---|
| Common name | Scientific name | | | | | | | |
| Insects: | | | | | | | | |
| * | * | * | * | * | * | * | * | * |
| Satyr, Mitchell's | Neonympha mitchellii mitchellii. | | U.S.A. (IN, MI, NJ, OH) | NA | E | 428E, 469 | NA | NA |
| * | * | * | * | * | * | * | * | * |

Dated: May 6, 1992.

**Richard N. Smith,**

*Acting Director, Fish and Wildlife Service.*

[FR Doc. 92–11827 Filed 5–19–92; 8:45 am]

**BILLING CODE 4310–55–M**

**50 CFR Part 17**

**RIN 1018–AB66**

## Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Sensitive Joint-Vetch (*Aeschynomene virginica*)

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** *Aeschynomene virginica* is an annual legume that can grow up to six feet tall and has yellow, pea-type flowers growing in racemes on short lateral branches. It requires the unique growing conditions occurring along segments of river systems that are close enough to the coast to be influenced by tidal action, yet far enough upstream to consist of fresh or slightly brackish water. The present distribution of *A. virginica* includes New Jersey (two occurrences), Maryland (one occurrence), Virginia (six occurrences) and North Carolina (three marginal occurrences). The joint-vetch has been extirpated from Pennsylvania and Delaware. Habitat alteration is the primary threat to the species' continued existence. Many of the sites where the species occurred historically have been dredged, filled, or bulkheaded. Extant sites are potentially threatened by a proposed highway expansion and a proposed electricity generating plant in New Jersey, by several proposed residential developments and water supply projects in Virginia, as well as by other factors related to increased population growth, including road construction, commercial development, water pollution, and bank erosion from motorboat traffic.

**EFFECTIVE DATE:** June 19, 1992.

**ADDRESSES:** The complete file for this rule is available for inspection by appointment during normal business hours, at the Annapolis Field Office, U.S. Fish and Wildlife Service, 1825 Virginia Street, Annapolis, MD 21401.

**FOR FURTHER INFORMATION CONTACT:** Ms. Judy Jacobs at the above address, telephone (410) 269–5448, during normal business hours.

**SUPPLEMENTARY INFORMATION:**

### Background

A rare and specialized ecological community type occurs a short distance upstream of where certain rivers in the coastal plain of the eastern United States meet the sea. Referred to as freshwater tidal marshes, these communities are close enough to the coast to be influenced by tidal fluctuations, yet far enough upstream to consist of fresh or only slightly brackish water. Plants that grow in this environment are subjected to a cycle of twice-daily flooding tha most plants cannot tolerate. The sensitive joint-vetch (*Aeschynomene virginica*) is a plant of such freshwater tidal communities.

*A. virginica* is an annual legume (family Fabaceae) that attains a height of 1 to 2 meters (3–6 feet) in a single growing season. The stems are single, sometimes branching near the top. Leaves are even-pinnate, 2–12 centimeters (0.8–4.8 inches) long, with entire, gland-dotted leaflets. The irregular, legume-type flowers are about 1 cm (0.4 inch) across, yellow, streaked with red, and grow in racemes (elongated inflorescences with stalked flowers). The fruit is a loment with 6–10 segments, turning dark brown when ripe. Flowering begins in late July and continues through September. Fruits are produced from July to frost. Some observations indicate that seedlings may germinate only in "flotsam" (plant material) that has been deposited on the riverbank (Bruederle and Davison 1984).

*Aeschynomene virginica* has been confused with other members of the genus, particularly *A. indica*, which is an introduced, weedy species, common in wet agricultural areas from North Carolina to Florida, west to Texas and Arkansas. Another introduced member of this genus, *A. rudis*, has also been confused with *A. virginica*. This confusion has resulted in references to *virginica* in numerous weed science publications (e.g., Boyette *et al.* 1979; Hackett and Murray 1986). The picture was clarified by Carulli and Fairbrothers (1988), who showed the three species to be distinguishable based on electrophoretic analysis of allozyme variation. Previous studies had also indicated the morphological distinctiveness of *A virginica*. In her monograph of the genus, Rudd (1955) distinguishes *A. virginica* from *A. indica* based on the sizes of the fruit stipes and the flowers. Numerous other authors, including Fernald (1939), Gleason and Cronquist (1963), and Radford *et al.* (1964) have recognized the taxonomic validity of *A. virginica*. The recently published *Vascular Flora of the Southeastern United States: Volume 3* (Isley 1990) clearly distinguishes these three species of *Aeschynomene*.

At present, the sensitive joint-vetch is extant in New Jersey, Maryland, Virginia, and North Carolina. The plant's status in North Carolina merits special comment. During the mid-1980's, status survey work in North Carolina (Leonard 1985) revealed that the species was no longer extant at any of the five historic localities. Potential visible causes of population loss included

commercial and housing developments, realignment of a highway, habitat conversion to a public beach, and competition from weedy species. In the course of survey work, six new occurrences of *A. virginica* were found, two in or adjacent to cornfields and the remainder in roadside ditches. These new populations, inhabitat atypical for the species, have not proven to be stable. Three disappeared the year following their discovery, and another population has since disappeared. An additional small population was discovered in 1991. Thus, *A. virginica* is presently known to be extant in North Carolina only in three locations—two ditches connected to Lake Mattamuskeet, in Hyde County, and a ditch in Beaufort County. These populations are all apparently unstable, and the outlook for their long-term survival is not good. Intensive fieldwork in North Carolina's fresh tidal marshes in the areas of Albemarle and Pamlico Sounds during 1989 and 1990 revealed no new joint-vetch populations. These areas represented most of the best potential habitat for *A. virginica* in the State, and it is therefore unlikely that any additional significant joint-vetch populations will be found in North Carolina.

The currently known distribution of the species is as follows: New Jersey: One small occurrent (± 50 individuals) on the Wading River in Burlington County and one large occurrence (± 2000) on the Manumuskin River in Cumberland County. The latter site, representing one of the few remaining examples of pristine freshwater tidal marsh habitat in the State and containing the largest known viable *Aeschynomene virginica* population, has been acquired by The Nature Conservancy. New Jersey historic records for *A. virginica* occur in Atlantic, Camden, Cape May, and Salem Counties. Additional potential habitat along the Mullica and Maurice River systems remains to be checked for the species' presence. Maryland: One occurrence of several hundred individuals on Manokin Creek, in Somerset County; historic records from Anne Arundel, Calvert, Charles, Prince Georges, and Wicomico Counties. All historic sites have been recently field-checked. North Carolina: As stated above, in the summer of 1991 *A. virginica* was known to occur in two ditches in Hyde County and one ditch in Beaufort County. The plant also occurred historically in Craven County. Virginia: This is the stronghold of the species' current distribution. Wide annual fluctuations make estimations difficult, but it is believed that the total number of plants in the State is in the vicinity of 5000. It occurs along six river systems, as follows: (1) An occurrence of about 50 individuals along the Potomac River in Stafford County; (2) an extensive occurrence consisting of seven sub-populations along approximately 25 miles of the Rappahannock River in King George, Essex, Richmond, and Westmoreland Counties; (3) a large occurrence consisting of five sub-populations along an approximate 15-mile stretch of the Mattaponi River, a tributary of the York in King and Queen and King William Counties; (4) five sub-populations along a 15-mile section of the Pamunkey River, another tributary of the York (King William and New Kent Counties); (5) an occurrence of about 50 plants on the Chickahominy River, a tributary of the James River, in Charles City and James City Counties; and (6) a tiny occurrence of some eight plants along the mainstem of the James River, in Charles City County. The species is apparently extirpated from its type locality further downstream on the Rappahannock in Middlesex County. Historic records also exist for Prince George and Surry Counties, along the James River. The historic range of the species also included Delaware, (New Castle County), where it was last observed in 1899, and Pennsylvania (Delaware County), where it was last seen in 1891.

Federal government actions on this species began on December 15, 1980, when the Service published in the Federal Register a revised Notice of Review for Native Plants (45 FR 82480). *Aeschynomene virginica* was included in that notice as Category 2 species. Category 2 includes those taxa for which proposing to list as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threats are not currently available to support proposed rules. On November 28, 1983, the Service published in the Federal Register a supplement to the Notice of Review for Native Plants (48 FR 53640); updated plant notices have been published on September 27, 1985 (50 FR 39526) and February 21, 1990 (55 FR 6184). *A. virginica* was included in these revisions as a Category 2 species.

In 1985 the Service contracted with The Nature Conservancy's Eastern Regional Office to conduct status survey work on *A. virginica* and several other Federal candidate species. Their report (Rawinski and Cassin 1986) indicated that sufficient information did not exist at that time to support listing *A. virginica* as endangered or threatened. They recommended retention of this species in Category 2. Subsequent to the submission of this report, numerous developments precipitated the preparation of a proposal to list the species as threatened. These included: (1) The disappearance of four known occurrences of the species in North Carolina; (2) resolution of uncertainties about the species' taxonomic affiliations (Carulli and Fairbrothers 1988); (3) accomplishment of further surveys of potential habitat throughout its range; and (4) appearance of specific threats to the species' continued existence, particularly in New Jersey and Virginia. The Federal Register document proposing threatened status for *Aeschynomene virginica* was published on July 26, 1991 (56 FR 34162). With the publication of this final rule, the Service now determines threatened status for *Aeschynomene virginica.*

**Summary of Comments and Recommendations**

In the July 26, 1991, proposed rule (56 FR 34162) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Comments were requested from appropriate state agencies, county governments, scientific organizations, and other interested parties. Newspaper notices inviting public comment were published in a total of five newspapers in New Jersey, Virginia, Maryland, and North Carolina, all of local circulation in the areas where the joint-vetch occurs.

A total of 11 comments were received. Seven of these were from various regulatory agencies in the four states where the species occurs. All of these expressed support for the listing action, although New Jersey recommended endangered, rather than threatened status. The Service concurs that the sensitive joint-vetch is faced with many threats, some of which are imminent. However, the current range-wide distribution and status of *Aeschynomene virginica* is more in keeping with the definition of "threatened" (i.e. likely to become endangered within the foreseeable future) as opposed to the "imminent danger of extinction" criterion that an endangered designation would indicate.

The U.S. Army Corps of Engineers also expressed support for the listing, as did a private individual who lives on Virginia's Pamunkey River and has witnessed considerable degradation over the past few years. A letter from Mattamuskeet National Wildlife Refuge in North Carolina expressed willingness

to cooperate with surveys and recovery actions. A letter from the Maryland Department of Transportation expressed no position, but indicated their readiness to protect the species where it might be affected by one of their projects. A letter from the Chesapeake Bay Local Assistance Department of Virginia also expressed no position on the proposed listing. Many of the letters provided additional information, which has been incorporated into this rule.

**Summary of Factors Affecting the Species**

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(a)(1). These factors and their application to *Aeschynomene virginica* (L.) B.S.P. (sensitive joint-vetch) are as follows:

*A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range*

The extirpation of the sensitive joint-vetch from Delaware and Pennsylvania and its elimination from many sites in other States can be directly attributed to habitat destruction. Many of the marshes where it occurred historically have been dredged and/or filled and the riverbanks bulkheaded or stabilized with riprap. This is most evident in historic locations around Philadelphia (Bruederle and Davison 1984). Other sources of potential or actual habitat destruction include impoundments and water withdrawal projects, road construction, commercial and residential development, and resultant pollution and sedimentation.

The remaining stronghold of *A. virginica* is in Virginia, along the relatively narrow band of freshwater tidal sections of several river systems on the coastal plain. These river sections are quite pristine, despite their proximity to the major metropolitan areas of Washington, DC and Richmond, Virginia. As the suburbs associated with these cities expand, the impacts to these river sections from residential and commercial development, shoreline stabilization activities, point and non-point source discharges, recreational use, water development projects, and sedimentation from building and road construction are all expected to increase greatly

Certain of these factors are known to be harmful to *Aeschynomene virginica*; others require further study to determine their effects. Shoreline stabilization, as in placement of riprap, can destroy the species' habitat directly. Increased motorboat traffic is known to be detrimental to freshwater tidal systems (A.E. Schyler, Philadelphia Academy of Natural Sciences, pers. comm. 1989). In addition to direct toxic effects from fuel leaks, the wave action from boat wakes can rapidly erode the mudflats and banks where the joint-vetch grows. Along narrower river sections, the wake from a single boat may affect both shorelines simultaneously. The letter of comment from the Pamunkey River resident attests to the erosive action of boat wakes.

Sedimentation could affect *A. virginica* by inhibiting germination, smothering seedlings and/or promoting the invasion of weedy species. Sipple (1990) notes that sedimentation of the Patuxent River in Maryland has allowed the common reed (*Phragmites australis*) to extend its range, displacing much of the wild rice (*Zizania aquatica*) that occurred historically along this river. Establishment of *Phragmites* or other invasive species could be especially detrimental to *A. virginica*, which has evolved to thrive in an environment with little competition from other plants.

Two specific projects could threaten New Jersey's large population of *A. virginica*. One is the extension of a major highway, which is proposed to cross the Manumuskin River in the vicinity of the population. The plants and their habitat could be destroyed directly, during the construction process, or indirectly, through input of sediments, road salt or petrochemicals. The other project is a coal-fired electric generating facility, proposed to be located less than a mile upstream from the population. There is concern that the disposal of by-products from this facility could degrate the plants' habitat.

Maryland's one known joint-vetch population is located in an area heavily impacted by humans, adjacent to a major highway, a sewage treatment plant, and a residential development. The population is dissected by two bridges, and its creek is channelized, beginning about one-half mile upstream. The population is also flanked by invasive weeds, including *Phragmites australis* and multiflora rose (*Rosa multiflora*). Fortunately, a larger segment of this population was discovered nearby in 1991, in a less heavily impacted setting.

In Virginia, most of the potential threats facing *Aeschynomene virginica* and its habitat are associated with population growth. Virginia's population, within the Chesapeake Bay watershed, is projected to increase by 32% by the year 2020, a rate nearly twice that predicted for Maryland (18%) and four times that for Pennsylvania (8%) (Year 2020 Panel 1988). In areas local to the occurrence of *Aeschynomene virginica*, growth rates may be even greater. Over the past ten years, the human population of King William County near the Mattaponi River joint-vetch population has grown more than 60 per cent (Oberg 1990), and this growth rate is projected to continue.

Residential development associated with this population increase is becoming evident. In early 1991, a 200-acre subdivision was completed in eastern King and Queen County. This development includes a boat launch and pier on the Mattaponi. In the western part of the county, efforts are underway to secure the necessary zoning for a 500-acre development, which would include river access, an 18-hole golf course, and other amenities. Without careful planning, such developments are likely incompatible with the continued existence of *Aeschynomene virginica*. The plants' habitat can be destroyed by the construction of piers and dredging for boat slips or other recreational purposes. Additionally, water quality degradation in streams harboring *A. virginica* can result from runoff of pesticides, fertilizers, and other chemicals used on golf courses, lawns, and gardens. Increased sewage effluent in the area may result in increased nutrient loading or pollution of local stream systems. One commentor on the proposed rule noted catching "grossly distorted catfish" and "living oysters with the shells badly corroded away" from the Pamunkey. The relationship between these observations and potential adverse impacts to the joint-vetch are unclear, but these observations certainly indicate that water quality in the area should be closely monitored.

Tremendous development pressures are also found close to the Washington, DC area. In 1987, a 1000-acre development was proposed on the Widewater Peninsula, a finger of land in Stafford County, Virginia that harbors the sole known Potomac River occurrence of *Aeschynomene virginica*. The original proposal called for over 3150 dwellings, a conference center, golf course, air strip, stores, offices, a 1000-slip marina, and industrial uses. This proposal required a re-zoning, which was rejected. However, several alternative planned developments have

been proposed, and the current intended land use of this area is for relatively high intensity waterfront development, which, without careful planning, may not be compatible with the continued existence of *A. virginica* or other freshwater tidal marsh plants.

In addition to expanded residential development, the population increase in Virginia will be accompanied by an increased demand for potable water. Tidal freshwater river systems are the source of freshwater in closest proximity to coastal communities and the obvious choice for obtaining this necessary commodity. The construction of Walker's Dam has already eliminated the tidal influence on a significant portion of the Chickahominy River, and it may have altered joint-vetch habitat in the process.

Currently, the Newport News Waterworks projects a water deficit of 35 million gallons per day (mgd) by the year 2040. The utility is beginning to evaluate numerous water supply options, three of which could potentially affect *A. virginica* habitat. The first alternative is withdrawal of 40 mgd from the James River above Richmond. A second alternative would involve a pumpover from the Pamunkey and Chickahominy Rivers (a 40 mgd withdrawal rate is proposed for each river). A third alternative calls for a maximum 75 mgd withdrawal from the Mattaponi River (B. Gladden, TNC, Charlottesville, VA, pers. comm. 1991).

Spotsylvania County has projected that it will need to increase its capacity to provide potable water by 1995. The County has applied for a permit to withdraw some 8.2 mgd from Po Creek (a tributary of the Mattaponi River). Stafford and Spotsylvania Counties and the City of Fredericksburg are also discussing a 24 mgd withdrawal from the Rappahannock River at Fredericksburg.

Hanover County, Virginia proposes to begin operating a reservoir for public water supply to the Mechanicsville-Chickahominy area by the end of this century. The reservoir would be created by constructing a cross-stream impoundment on Crump Creek, a tributary to the Pamunkey River. The implementation of this proposal would include a 25 mgd withdrawal from the Pamunkey River.

The effects of these proposed water supply projects on *A. virginica* are very likely to be detrimental and clearly need to be evaluated, both on a local and a regional basis. The withdrawal of large amounts of freshwater could raise the salinity of the marsh systems occupied by the joint-vetch, possibly beyond the species' tolerance limits. Other plant and animal species in this community type might be adversely impacted along with the entire system. Salinity changes might also promote the invasion of weedy plant species that could readily out-compete the joint-vetch. It is likely that the growing demand for water in southeastern Virginia can be met without extirpating *A. virginica* or destroying the unique and important ecosystem that it inhabits, but this will require careful planning.

*B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

*A. virginica* has not been a target for collection, since it grows in a specialized habitat and would not survive under normal garden conditions. The plant has been collected in the past for scientific study. The increased visibility of the species as a result of the publication of this rule might increase the perceived value of speciments to collectors.

*C. Disease or Predation*

Observations in North Carolina have indicated severe predation of seeds by tobacco budworms and corn earworms (Leonard 1985). It is unlikely that these predators will prove to be a problem in other populations throughout the species' range, as they do not occur in typical wetland habitat.

*D. The Inadequacy of Existing Regulatory Mechanisms*

The sensitive joint-vetch is listed as endangered by the States of Maryland, New Jersey, and North Carolina, but not in Virginia. The Maryland Threatened and Endangered Species regulations (COMAR 08.03.08) prohibit taking of endangered plant species from State property except by special permit and further prohibit taking from private property without the written permission of the landowner. However, these regulations do not prohibit alteration of the habitat in which these species occur. Protection of habitat is afforded *Aeschynomene* under Maryland's Critical Areas regulations (COMAR 14.15.09), which prohibit any activity that may adversely affect any endangered or threatened species or its habitat within 100 feet of the upper limit of a tidal wetland. However, implementation of these regulations may be variable, because protection measures are developed and administered by local jurisdictions. The joint-vetch is afforded legal protection in North Carolina by North Carolina general statutes §§ 106–202.122, 106–202.19 [CUN.SUP.1985], which prohibit interstate trade without a permit, prohibit taking without written permission of landowners, and provide for monitoring and management of state-listed species. However, this legislation provides no habitat protection for listed species. In Virginia, the state with the greatest number of populations of *A. virginica*, provides no protection. Listing *A. virginica* under Virginia's Endangered Plant and Insect Species Act (title 3.1, chapter 39), would protect it from take, but destruction or alteration of its habitat would be unregulated. In these states, listing under the Endangered Species Act would provide additional protection particularly for the habitat of *A. virginica*.

In New Jersey, numerous laws pertain to the protection of endangered plants. The New Jersey Endangered Plant Species List Act (NJ SA 13:1B—15.151–158) merely provides for the creation of a list of rare plants and offers no protection from take or habitat alteration. However, other state laws provide more substantial protection. Both New Jersey populations of *A. virginica* occur in wetlands regulated under the New Jersey Wetlands Act of 1970, which prohibits most non-water-dependent development within wetlands, with some exceptions, such as powerline crossings. The entire Wading River population and the eastern half of the Manumuskin River population occur within the area protected by the Pinelands Protection Act (NJ AC 7:50—6.24), which prohibits any development that would adversely affect the survival of any local population of an endangered or threatened species. The regulations governing the Coastal Area Facility Review Act (N.J.S.A. 13:19–1 *et seq.*) state that habitat for endangered and threatened species on Federal or State lists or under active consideration for inclusion on either list will be considered "special areas". Development in these areas is prohibited unless it can be shown that the rare species' habitat would not be adversely affected. The Wading River population also falls within the area covered by this Act.

*E. Other Natural or Manmade Factors Affecting its Continued Existence*

Whether due to causes mentioned under Factor A or to other as yet unidentified threats, the range of *Aeschynomene virginica* along river systems in Virginia is contracting. On both the Rappahannock and the James Rivers, *Aeschynomene virginica* was collected historically some 10 miles further upstream and downstream than it is currently known to exist. It remains

on only one section of the Chickahominy River, where it once had a much broader distribution, as noted from historical collections (T. Wieboldt, VPI&SU Herbarium, pers. comm. 1990).

It has been speculated that the existence of joint-vetch may be threatened over the long term by sea level rise. This phenomenon could result in merely "pushing" the species' habitat upstream from its present position. However, the location of major cities and other developed areas upstream from the fresh/brackish water interface in many locations might block the upstream migration of natural freshwater marsh communities and their component species, including *A. virginica*.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Aeschynomene virginica* as threatened. The species is not in immediate danger of extinction, due primarily to its current distribution along six river systems in Virginia. However, the best available data indicate that it qualifies as a threatened species, based on the projected outlook for human population increase and associated commercial and suburban development, demand for water, and increased human use along these river systems. Increased development has proven to be detrimental to *A. virginica* and its specialized habitat, as indicated by the species' extirpation from two States and numerous counties in the States where it is yet extant.

**Critical Habitat**

Section 4(a)(3) of the Act as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for this species at this time because the benefits of publicizing critical habitat are outweighed by added risks. Publication of critical habitat is not in the best interest of this species. The rarity of this species and its restricted range make the plants particularly vulnerable to taking. Taking is an activity difficult to prevent, and only regulated by the Act with respect to plants in cases of (1) removal and reduction to possession of listed plants from lands under Federal jurisdiction, or their malicious damage or destruction on such lands; and (2) removal, cutting, digging up, or damaging or destroying in knowing violation of any State law or regulation, including State criminal trespass law. Such provisions are difficult to enforce, and publication of critical habitat descriptions and maps would make the joint-vetch more vulnerable and increase problems. Adding the plant to the List of Endangered and Threatened Plants publicizes rarity and thus can make them attractive to curiosity seekers or expose them to potential vandalism. Though prohibited by the Act, taking and vandalism are difficult to control on the ground. The plant is sedentary which makes it particularly vulnerable. The principal land managers have been notified of the location of the species and are aware of the importance of protecting the species' habitat.

Protection of these species habitat will be addressed through the recovery process and section 7 jeopardy standard. Any federal action that would impact the plants' habitat would necessarily affect the plants themselves (being immobile, rooted organisms) and would be review during section 7 consultation. The Service finds that designation of critical habitat is not presently prudent for the plant species.

**Available Conservation Measures**

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, States, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States, and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. Private developers who are working without any Federal permits, other authorizations, or monies, will be unaffected under this rule with respect to section 7(a), but would be subject to restrictions against take, as specified in section 9 of the Act and implementing regulations.

Because *A. virginica* occurs in wetland habitats, many projects potentially affecting it would be within the permitting authority of the U.S. Army Corps of Engineers. The water supply and development projects mentioned under Factor A are among such projects.

The listing of this plant also brings sections 5 and 6 of the Endangered Species Act into full effect on its behalf. Section 5 authorizes the acquisition of lands for the purpose of conserving endangered and threatened species. Pursuant to section 6, the Service may grant funds to affected states for management actions aiding the protection and recovery of the species.

Listing the sensitive joint-vetch as threatened provides for development of a recovery plan. Such a plan will bring together State, Federal, and private efforts for conservation of species. The plan will establish an administrative framework, sanctioned by the Act, for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan will also set recovery priorities and estimate the cost of various studies or other tasks necessary to accomplish them. It will assign appropriate functions to each agency and a time frame within which to complete them. It also identifies specific areas that need to be monitored and possibly managed for the species.

The Act and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general prohibitions and exceptions that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71 apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. In addition, for listed plants, the 1988 amendments (Pub. L. 100–478) to the Act prohibit the malicious damage or destruction on Federal lands and the

removal, cutting, digging up, or damaging or destroying of listed plants in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances.

It is anticipated that few trade permits would ever be sought or issued because the species is not common in cultivation or in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27329, Washington, DC 20038–7329 (202/343–4955).

### National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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### Author

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### List of Subjects in 50 CFR Part 17

Endangered and threatened species. Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

### Regulation Promulgation

## PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter 1, title 50 of the Code of Federal Regulations is amended, as set forth below:

1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

2. Section 17.12(h) is amended by adding the following, in alphabetical order under the family Fabaceae to the List of Endangered and Threatened Plants:

**§ 17.12 Endangered and threatened plants.**

* * * * *

(h) * * *

| Species | | Historic range | Status | When listed | Critical habitat | Special rules |
|---|---|---|---|---|---|---|
| Scientific name | Common name | | | | | |
| Fabaceae—Bean family | | | | | | |
| *Aeschynomene virginica* | sensitive joint-vetch | U.S.A. (DE*, MD, NC, NJ, PA*, VA) | T | 4FO | NA | NA |

Dated: May 7, 1992.

**Bruce Blanchard,**

*Acting Director, Fish and Wildlife Service.*

[FR Doc. 92–11828 Filed 5–19–92; 8:45 am]

BILLING CODE 4310–55–M